



PATENT  
8028-1019

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Saburou IKEDA

Appeal No. \_\_\_\_\_

Application No. 09/893,706

Group 3639

Filed June 29, 2001

Examiner A. Robinson Boyce

SYSTEM FOR TOLL PAYMENT AND  
TRANSPORTATION MANAGEMENT

APPEAL BRIEF

MAY IT PLEASE YOUR HONORS:

August 22, 2006

1. Real Party in Interest

The real party in interest in this appeal is the assignee, NEC Corporation of Tokyo Japan.

2. Related Appeals and Interferences

None.

3. Status of the Claims

Claims 1-20 and 23 are pending, from whose final rejection this appeal is taken.

4. Status of Amendments

Subsequent to the January 13, 2006 final rejection, Applicant filed an Amendment After Final Rejection on April 13, 2006, which was entered for purposes of Appeal.

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5. Summary of Claimed Subject Matter

The invention relates to an electronic toll payment system for a highway toll and for a method of using a portable telephone for electronic toll payment service.

In claim 1 and with respect to Figure 1 and page 5, lines 13-19, a toll payment system includes a portable telephone 1 on a car 2 of a contractor of an electronic toll payment service. The toll payment system also includes base stations 3 connected with the portable telephone 1 and a server 8 connected with the base stations 3.

As disclosed on page 7, lines 26-28, the server includes a first memory for storing locations of the base stations 3. As disclosed on page 7, lines 14-20, the server also includes a second memory for storing names of the contractors or their car numbers and unit toll for each section along a highway.

The server 8 further includes a driving route identification unit for identifying a driving route of the portable telephone on the basis of the stored locations of the base stations as disclosed on page 9, lines 4-18.

As further disclosed on page 11, line 28 to page 12, line 6, the server 8 still further includes a toll calculation unit for calculating a toll on the basis of the unit toll and the identified driving route. The above passage also discloses a toll charging unit for charging the portable telephone the calculated toll.

Independent claim 2 is also a system claim and includes similar features to that of claim 1 with the added limitation that the portable telephone includes a GPS unit for identifying the location of the portable telephone as disclosed on page 2, lines 10-14. Independent claims 17 and 18 are method claims with claim 17 including similar features to that of claim 1 and claim 18 including similar features to that of claim 2. Independent claims 19, 20 and 23 are computer program product claims with claims 19 and 23 including similar features to that of claim 1 and claim 20 including similar features to that of claim 2. Accordingly, only where the claims differ will separate arguments be set forth.

6. Grounds of Rejection to be Reviewed on Appeal

Claims 1-20 and 23 stand rejected under §103(a) as being obvious over TREYZ et al. 6,711,474 in view of HASSETT 6,653,946.

7. Arguments

Whether claims 1-20 and 23 are unpatentable under §103(a) over TREYZ et al. in view of HASSETT.

Claim 1 recites a portable telephone on a car of a contractor of an electronic toll payment service. Claim 1 also recites that a server comprises 1) a second memory for storing names of contractors or their car numbers, and 2) a toll

calculation unit. Thus, the server has a memory that stores the names of users having a contract for an electronic toll payment service or the car numbers of the users, and also a toll calculation unit.

As to item 1) above, column 78, lines 8-10 and lines 27-30 of the TREYZ reference is offered as disclosing a digital camera, which captures images of license plates and stores the images in a memory of a personal computer. The Examiner concludes that the memory would meet the limitation of the recited second memory.

However, this conclusion is untenable at least because the memory of the personal computer in TREYZ does not store names of contractors or their car numbers. Rather, the memory of TREYZ stores digital images of license plates that were captured by a digital camera of the owner of the computer.

Column 78, lines 8-32 of TREYZ in conjunction with Figure 104 disclose that a first vehicle has a digital camera 170 and a computer 14 connected to the digital camera 170. The digital camera 170 may be mounted on the rear of the first vehicle and captures images of a second vehicle that is possibly tailgating the first vehicle. The digital camera 170 is operated either automatically (based on a proximity sensor) or manually. The images captured by the digital camera 170 may be captured in a memory of the personal computer 14.

Accordingly, the images stored in memory are pictures taken of a second vehicle or license of a second vehicle that is tailgating the first vehicle. TREYZ does not disclose that the information stored in a memory is the names of users having a contract for an electronic toll payment service (contractors) or the car numbers of the contractors.

Rather, as set forth above, the images stored are those of a random person who happens to be tailgating the first vehicle.

As to item 2), the Examiner acknowledges that TREYZ does not disclose a server that includes a toll calculation unit, and relies on HASSETT for the suggestion to modify TREYZ to include this feature.

Column 4, lines 31-44 of HASSETT are offered in the Official Action as disclosing this feature. This passage discloses a dedicated toll collection facility that transmits a unique signal, which indicates the location of the toll collection facility and the amount due at that toll collection facility. An in-vehicle toll processor receives the signal from the toll collection facility and updates the information based on where the vehicle enters and exits the toll route.

However, the information for calculating a toll is stored in an in-vehicle memory, and it is clear from HASSETT that the toll calculation unit is part of each individual vehicle.

In contrast, the recited server and thus, the toll calculation unit is structured and arranged to serve plural vehicles from a remote location. See the recited contractors (plural) and their car numbers (plural), Figure 1 and page 5, lines 13-19.

The Federal Circuit has held that in determining the differences between the prior art and the claims, the question under 35 USC 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983).

As set forth above, HASSETT relies on each individual vehicle having a toll calculation unit calculating a toll for that vehicle. Selecting the toll calculation unit for calculating a toll while ignoring that the toll calculating unit is part of a server that is in electronic contact with a portable device (not within the portable device itself) and is structured to calculate a toll for plural vehicles, ignores the claimed invention as a whole.

When the claims are properly analyzed under 35 USC 103 taking into account the invention as a whole, the present claims would not have been obvious over the proposed combination of references.

Independent claims 2, 17-20 and 23 include similar limitations and the analysis above regarding claim 1 is equally applicable to claims 2, 17-20 and 23.

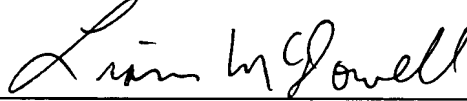
The dependent claims are patentable at least for depending from an allowable independent claim.

In view of the foregoing, it follows that the rejection of claims 1-20 and 23 as unpatentable under §103 as obvious over TREYZ et al. in view of HASSETT is improper and should be reversed.

Reversal of this rejection is accordingly respectfully solicited.

Respectfully submitted,

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8. Claims Appendix

Listing of Claims Involved in the Appeal:

1. A toll payment system which comprises:

a portable telephone on a car of a contractor of  
electronic toll payment service;

base stations connected with said portable telephone;  
and

a server connected with said base stations,  
wherein said server comprises:

a first memory for storing locations of said base  
stations;

a second memory for storing names of contractors or  
their car numbers and unit toll for each section along a highway;

a driving route identification unit for identifying a  
driving route of said portable telephone on the basis of said  
locations of said base station which are connected with said  
portable telephone;

a toll calculation unit for calculating a toll on the  
basis of said unit toll and the identified driving route; and

a toll charging unit for charging said portable  
telephone the calculated toll.

2. A toll payment system which comprises:

a portable telephone on a car of a contractor of  
electronic toll payment service;



base stations connected with said portable telephone;  
and

a server connected with said base stations,  
wherein:

said portable telephone comprises GPS unit for  
identifying its location,

said server comprises:

a second memory for storing names of contractors or  
their car numbers and unit toll for each section along a highway;

a driving route identification unit for identifying a  
driving route of said portable telephone on the basis of said  
locations measured by said GPS unit;

a toll calculation unit for calculating a toll on the  
basis of said unit toll and the identified driving route; and

a toll charging unit for charging said portable  
telephone the calculated toll.

3. The toll payment system according to claim 1,  
wherein said server comprises gate means for passing said car on  
the basis of finishing said toll payment.

4. The toll payment system according to claim 2,  
wherein said server comprises gate means for passing said car on  
the basis of finishing said toll payment.

5. The toll payment system according to claim 1,  
wherein said server comprises notification means for notifying

said portable telephone of an exit lane on the basis of finishing said toll payment.

6. The toll payment system according to claim 2, wherein said server comprises notification means for notifying said portable telephone of an exit lane on the basis of finishing said toll payment.

7. The toll payment system according to claim 1, wherein said driving route identification unit identifies said driving route of said portable telephone on the basis of connection states between said mobile station and said base stations.

8. The toll payment system according to claim 7, wherein said base stations are connected with said portable telephone located at a tunnel, toll gate, or a service area along said driving route.

9. The toll payment system according to claim 1, wherein said driving route identification unit identifies said driving route of said portable telephone on the basis of connection states between said portable telephone and a base station which includes a region where an exterior magnetic wave is shielded, but can be connected with said portable telephone.

10. The toll payment system according to claim 2, wherein said driving route identification unit identifies said driving route of said portable telephone on the basis of connection states between said portable telephone and a base

station which includes a region where an exterior magnetic wave is shielded, but can be connected with said portable telephone.

11. The toll payment system according to claim 1, wherein said toll charging means charges said calculated toll, when a balance for said portable telephone is greater than said calculated toll.

12. The toll payment system according to claim 2, wherein said toll charging means charges said calculated toll, when a balance for said portable telephone is greater than said calculated toll.

13. The toll payment system according to claim 1, wherein said toll charging means charges said calculated toll, when said portable telephone communicates with said base stations every prescribed time interval.

14. The toll payment system according to claim 2, wherein said toll charging means charges said calculated toll, when said portable telephone communicates with said base stations every prescribed time interval.

15. The toll payment system according to claim 1, wherein said server further comprises a third memory for storing an ID of said portable telephone, wherein said name of contractor and its car ID are identified by said ID of said portable telephone.

16. The toll payment system according to claim 2, wherein said server further comprises a third memory for storing

an ID of said portable telephone, wherein said name of contractor and its car ID are identified by said ID of said portable telephone.

17. A toll payment method using a portable telephone on a car of a contractor of electronic toll payment service, base stations connected with said portable telephone and a server connected with said base stations, which comprises the steps of:

storing, in a memory of said server, names of contractors or their car numbers and unit toll for each section along a highway;

identifying a driving route of said portable telephone on the basis of said locations of said base station which are connected with said portable telephone;

calculating a toll on the basis of said unit toll and the identified driving route; and

charging said portable telephone the calculated toll.

18. A toll payment method using a portable telephone with GPS unit on a car of a contractor of electronic toll payment service, base stations connected with said portable telephone and a server connected with said base stations, which comprises the steps of:

storing, in a memory of said server, names of contractors or their car numbers and unit toll for each section along a highway;

identifying a driving route of said portable telephone on the basis of said locations measured by said GPS unit;

calculating a toll on the basis of said unit toll and the identified driving route; and

charging said portable telephone the calculated toll.

19. A computer program product for executing a toll payment method using a portable telephone on a car of a contractor of electronic toll payment service, base stations connected with said portable telephone and a server connected with said base stations, which records the steps of:

storing, in a memory of said server, names of contractors or their car numbers and unit toll for each section along a highway;

identifying a driving route of said portable telephone on the basis of said locations of said base station which are connected with said portable telephone;

calculating a toll on the basis of said unit toll and the identified driving route; and

charging said portable telephone the calculated toll.

20. A computer program product for executing a toll payment method using a portable telephone with GPS unit on a car of a contractor of electronic toll payment service, base stations connected with said portable telephone and a server connected with said base stations, which records the steps of:

storing, in a memory of said server, names of contractors or their car numbers and unit toll for each section along a highway;

identifying a driving route of said portable telephone on the basis of said locations measured by said GPS unit;

calculating a toll on the basis of said unit toll and the identified driving route; and

charging said portable telephone the calculated toll.

23. A computer program product for a transportation management system which records the steps of:

storing, in a memory of a server, a name of a contractor of a portable telephone and a number of a car of said contractor and tolls for each section that said portable telephone travels along;

identifying a driving route of said car on the basis of the location of a radio base station connected with said portable telephone, said driving route includes a section where exterior electromagnetic wave is shielded, but can be connected with said portable telephone;

calculating a toll based on a total number of tolls that said portable telephone has passed; and  
charging said portable telephone said calculated toll.

9. Evidence Appendix

None.

10. Related Proceedings Appendix

None.